



SEQUENCE LISTING

<110> Mueller-Hermelink, Hans Konrad
Vollmers, Heinz Peter
Hensel, Frank

<120> Neoplasm-Specific Polypeptides and Their
Uses

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<140> 10/764,730

<141> 2004-01-26

<150> PCT/DE02/02699

<151> 2002-07-23

<150> DE 10210425.5

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Val	Lys	Gln	Arg	Thr	Gly	Gln	Gly	Leu	Glu	Trp	Ile	Gly	Glu	Ile	Tyr	
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 Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr Met Gln Leu Ser
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 Trp Tyr Leu Gln Lys Pro Gly Gln Ser Pro Lys Leu Leu Ile Tyr Lys
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 Val Ser Asn Arg Phe Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly
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His Arg Gly Asn Ile Thr Glu Tyr Gln Cys His Gln Tyr Ile Thr Lys	
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Glu Lys Gly Leu Val Lys Glu Ala Glu Glu Arg Glu Pro Lys Ile Gln	
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Tyr Lys Cys Leu Phe Asn His Lys Phe Glu Glu Ser Met Ser Glu Lys	
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245 250 255	
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Phe Cys His Asp Val Ala Asp Asn Gln Ile Asp Ser Gly Asp Leu Met	
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Glu Cys Leu Ile Gln Asn Lys His Gln Lys Asp Met Asn Glu Lys Cys	
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Ala Ile Gly Val Thr His Phe Gln Leu Val Gln Met Lys Asp Phe Arg	
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Phe Ser Tyr Lys Phe Lys Met Ala Cys Lys Glu Asp Val Leu Lys Leu	
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Cys Pro Asn Ile Lys Lys Lys Val Asp Val Val Ile Cys Leu Ser Thr	
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Thr Val Arg Asn Asp Thr Leu Gln Glu Ala Lys Glu His Arg Val Ser	
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Val Phe Lys Leu Gln Glu Thr Glu Met Met Asp Pro Glu Leu Asp Tyr	
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Thr Leu Met Arg Val Cys Lys Gln Met Ile Lys Lys Phe Cys Pro Glu	
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Leu	Lys	Ile	Lys	Thr	Glu	Leu	Cys	Lys	Lys	Glu	Val	Leu	Asn	Met	Leu	
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Arg	Leu	Gln	Pro	Glu	Cys	Lys	Lys	Arg	Leu	Asn	Asp	Arg	Ile	Glu	Met	
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Trp	Ser	Tyr	Ala	Ala	Lys	Val	Ala	Pro	Ala	Asp	Gly	Phe	Ser	Asp	Leu	
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gcc	atg	caa	gta	atg	acg	tct	cca	tct	aag	aac	tac	att	ctc	tct	gtg	3024
Ala	Met	Gln	Val	Met	Thr	Ser	Pro	Ser	Lys	Asn	Tyr	Ile	Leu	Ser	Val	
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 1010 1015 1020

cgg atc acc aag cga gtg aca cga gag ctc aag gac agg tag 3114
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 Ala Asp Glu Pro Val Gly Lys Gly Tyr Met Val Ser Cys Leu Val Asp
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 His Arg Gly Asn Ile Thr Glu Tyr Gln Cys His Gln Tyr Ile Thr Lys
 65 70 75 80
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 Cys Arg Glu Ala Leu Thr Thr Arg Gln Lys Leu Ile Ala Gln Asp Tyr
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 225 230 235 240
 Tyr Arg Cys Asn Val Glu Asn Leu Pro Arg Ser Arg Glu Ala Arg Leu
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 Ser Tyr Leu Leu Met Cys Leu Glu Ser Ala Val His Arg Gly Arg Gln
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 Val Ser Ser Glu Cys Gln Gly Glu Met Leu Asp Tyr Arg Arg Met Leu
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 Met Glu Asp Phe Ser Leu Ser Pro Glu Ile Ile Leu Ser Cys Arg Gly
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 Glu Ile Glu His His Cys Ser Gly Leu His Arg Lys Gly Arg Thr Leu
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 His Cys Leu Met Lys Val Val Arg Gly Glu Lys Gly Asn Leu Gly Met

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Ile	Gln	Thr	Ala	Cys	Lys	His	Ile	Arg	Ser	Gly	Asp	Pro	Met	Ile	Leu			
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Ser	Cys	Leu	Met	Glu	His	Leu	Tyr	Thr	Glu	Lys	Met	Val	Glu	Asp	Cys			
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Cys	His	Thr	His	Gly	Trp	Asn	Glu	Thr	Ser	Glu	Phe	Met	Pro	Gln	Gly			
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Ala	Val	Phe	Ser	Cys	Leu	Tyr	Arg	His	Ala	Tyr	Arg	Thr	Glu	Glu	Gln			
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His	Gln	Arg	Ala	Met	Asp	Val	Lys	Leu	Asp	Pro	Ala	Leu	Gln	Asp	Lys			
			485						490					495				
Cys	Leu	Ile	Asp	Leu	Gly	Lys	Trp	Cys	Ser	Glu	Lys	Thr	Glu	Thr	Gly			
		500						505					510					
Gln	Lys	Leu	Glu	Cys	Leu	Gln	Asp	His	Leu	Asp	Asp	Leu	Val	Val	Glu			
		515					520					525						
Cys	Arg	Asp	Ile	Val	Gly	Asn	Leu	Thr	Glu	Leu	Glu	Ser	Glu	Asp	Ile			
		530				535					540							
Gln	Ile	Glu	Ala	Leu	Leu	Met	Arg	Ala	Cys	Glu	Pro	Ile	Ile	Gln	Asn			
545					550					555					560			
Phe	Cys	His	Asp	Val	Ala	Asp	Asn	Gln	Ile	Asp	Ser	Gly	Asp	Leu	Met			
			565						570					575				
Glu	Cys	Leu	Ile	Gln	Asn	Lys	His	Gln	Lys	Asp	Met	Asn	Glu	Lys	Cys			
		580						585					590					
Ala	Ile	Gly	Val	Thr	His	Phe	Gln	Leu	Val	Gln	Met	Lys	Asp	Phe	Arg			
		595					600					605						
Phe	Ser	Tyr	Lys	Phe	Lys	Met	Ala	Cys	Lys	Glu	Asp	Val	Leu	Lys	Leu			
		610				615					620							
Cys	Pro	Asn	Ile	Lys	Lys	Lys	Val	Asp	Val	Val	Ile	Cys	Leu	Ser	Thr			
625					630					635				640				
Thr	Val	Arg	Asn	Asp	Thr	Leu	Gln	Glu	Ala	Lys	Glu	His	Arg	Val	Ser			
			645						650					655				
Leu	Lys	Cys	Arg	Arg	Gln	Leu	Arg	Val	Glu	Glu	Leu	Glu	Met	Thr	Glu			
		660						665					670					
Asp	Ile	Arg	Leu	Glu	Pro	Asp	Leu	Tyr	Glu	Ala	Cys	Lys	Ser	Asp	Ile			
		675					680					685						
Lys	Asn	Phe	Cys	Ser	Ala	Val	Gln	Tyr	Gly	Asn	Ala	Gln	Ile	Ile	Glu			
		690				695					700							
Cys	Leu	Lys	Glu	Asn	Lys	Lys	Gln	Leu	Ser	Thr	Arg	Cys	His	Gln	Lys			
705					710					715				720				
Val	Phe	Lys	Leu	Gln	Glu	Thr	Glu	Met	Met	Asp	Pro	Glu	Leu	Asp	Tyr			
			725						730					735				
Thr	Leu	Met	Arg	Val	Cys	Lys	Gln	Met	Ile	Lys	Lys	Phe	Cys	Pro	Glu			
		740					745						750					
Ala	Asp	Ser	Lys	Thr	Met	Leu	Gln	Cys	Leu	Lys	Gln	Asn	Lys	Asn	Ser			
		755					760					765						
Glu	Leu	Met	Asp	Pro	Lys	Cys	Lys	Gln	Met	Ile	Thr	Lys	Arg	Gln	Ile			
		770				775					780							
Thr	Gln	Asn	Thr	Asp	Tyr	Arg	Leu	Asn	Pro	Met	Leu	Arg	Lys	Ala	Cys			

785					790					795					800
Lys	Ala	Asp	Ile	Pro	Lys	Phe	Cys	His	Gly	Ile	Leu	Thr	Lys	Ala	Lys
				805					810					815	
Asp	Asp	Ser	Glu	Leu	Glu	Gly	Gln	Val	Ile	Ser	Cys	Leu	Lys	Leu	Arg
			820					825					830		
Tyr	Ala	Asp	Gln	Arg	Leu	Ser	Ser	Asp	Cys	Glu	Asp	Gln	Ile	Arg	Ile
		835					840					845			
Ile	Ile	Gln	Glu	Ser	Ala	Leu	Asp	Tyr	Arg	Leu	Asp	Pro	Gln	Leu	Gln
	850					855				860					
Leu	His	Cys	Ser	Asp	Glu	Ile	Ser	Ser	Leu	Cys	Ala	Glu	Glu	Ala	Ala
865					870					875				880	
Ala	Gln	Glu	Gln	Thr	Gly	Gln	Val	Glu	Glu	Cys	Leu	Lys	Val	Asn	Leu
				885					890					895	
Leu	Lys	Ile	Lys	Thr	Glu	Leu	Cys	Lys	Lys	Glu	Val	Leu	Asn	Met	Leu
			900					905					910		
Lys	Glu	Ser	Lys	Ala	Asp	Ile	Phe	Val	Asp	Pro	Val	Leu	His	Thr	Ala
		915					920					925			
Cys	Ala	Leu	Asp	Ile	Lys	His	His	Cys	Ala	Ala	Ile	Thr	Pro	Gly	Arg
	930					935					940				
Gly	Arg	Gln	Met	Ser	Cys	Leu	Met	Glu	Ala	Leu	Glu	Asp	Lys	Arg	Val
945					950					955				960	
Arg	Leu	Gln	Pro	Glu	Cys	Lys	Lys	Arg	Leu	Asn	Asp	Arg	Ile	Glu	Met
			965						970					975	
Trp	Ser	Tyr	Ala	Ala	Lys	Val	Ala	Pro	Ala	Asp	Gly	Phe	Ser	Asp	Leu
		980						985					990		
Ala	Met	Gln	Val	Met	Thr	Ser	Pro	Ser	Lys	Asn	Tyr	Ile	Leu	Ser	Val
	995					1000						1005			
Ile	Ser	Gly	Ser	Ile	Cys	Ile	Leu	Phe	Leu	Ile	Gly	Leu	Met	Cys	Gly
	1010					1015					1020				
Arg	Ile	Thr	Lys	Arg	Val	Thr	Arg	Glu	Leu	Lys	Asp	Arg			
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 <213> Homo sapiens

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Leu	His	Leu	Leu	Leu	Phe	Ala	Ala	Gly	Gly	Arg	Asn	Ser	Pro	Ala	
		20					25				30				
Arg	Ala	Ser	His	Ser	Gln	Gly	Gln	Gly	Pro	Gly	Ala	Asn	Phe	Val	Ser
	35					40					45				
Phe	Val	Gly	Gln	Ala	Gly	Gly	Gly	Gly	Pro	Ala	Gly	Gln	Gln	Leu	Pro
	50				55					60					
Gln	Leu	Pro	Gln	Ser	Ser	Gln	Leu	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln
65					70				75					80	
Gln	Gln	Gln	Gln	Pro	Gln	Pro	Pro	Gln	Pro	Pro	Phe	Pro	Ala	Gly	Gly
			85					90						95	
Pro	Pro	Arg	Arg	Gly	Gly	Ala	Gly	Ala	Gly	Gly	Gly	Trp	Lys	Leu	Ala
		100					105					110			
Glu	Glu	Glu	Ser	Cys	Arg	Glu	Asp	Val	Thr	Arg	Val	Cys	Pro	Lys	His
	115					120					125				
Thr	Trp	Ser	Asn	Asn	Leu	Ala	Val	Leu	Glu	Cys	Leu	Gln	Asp	Val	Arg
	130				135						140				
Glu	Pro	Glu	Asn	Glu	Ile	Ser	Ser	Asp	Cys	Asn	His	Leu	Leu	Trp	Asn

145		150		155		160
Tyr Lys Leu Asn Leu Thr Thr Asp Pro Lys Phe Glu Ser Val Ala Arg						
	165		170			175
Glu Val Cys Lys Ser Thr Ile Thr Glu Ile Lys Glu Cys Ala Asp Glu						
	180		185			190
Pro Val Gly Lys Gly Tyr Met Val Ser Cys Leu Val Asp His Arg Gly						
	195		200			205
Asn Ile Thr Glu Tyr Gln Cys His Gln Tyr Ile Thr Lys Met Thr Ala						
	210		215			220
Ile Ile Phe Ser Asp Tyr Arg Leu Ile Cys Gly Phe Met Asp Asp Cys						
	225		230			235
Lys Asn Asp Ile Asn Ile Leu Lys Cys Gly Ser Ile Arg Leu Gly Glu						
	245		250			255
Lys Asp Ala His Ser Gln Gly Glu Val Ser Cys Leu Glu Lys Gly						
	260		265			270
Leu Val Lys Glu Ala Glu Glu Arg Glu Pro Lys Ile Gln Val Ser Glu						
	275		280			285
Leu Cys Lys Lys Ala Ile Leu Arg Val Ala Glu Leu Ser Ser Asp Asp						
	290		295			300
Phe His Leu Asp Arg His Leu Tyr Phe Ala Cys Arg Asp Asp Arg Glu						
	305		310			315
Arg Phe Cys Glu Asn Thr Gln Ala Cys Glu Gly Arg Val Tyr Lys Cys						
	325		330			335
Leu Phe Asn His Lys Phe Glu Glu Ser Met Ser Glu Lys Cys Arg Glu						
	340		345			350
Ala Leu Thr Thr Arg Gln Lys Leu Ile Ala Gln Asp Tyr Lys Val Ser						
	355		360			365
Tyr Ser Leu Ala Lys Ser Cys Lys Ser Asp Leu Lys Lys Tyr Arg Cys						
	370		375			380
Asn Val Glu Asn Leu Pro Arg Ser Arg Glu Ala Arg Leu Ser Tyr Leu						
	385		390			395
Leu Met Cys Leu Glu Ser Ala Val His Arg Gly Arg Gln Val Ser Ser						
	405		410			415
Glu Cys Gln Gly Glu Met Leu Asp Tyr Arg Arg Met Leu Met Glu Asp						
	420		425			430
Phe Ser Leu Ser Pro Glu Ile Ile Leu Ser Cys Arg Gly Glu Ile Glu						
	435		440			445
His His Cys Ser Gly Leu His Arg Lys Gly Arg Thr Leu His Cys Leu						
	450		455			460
Met Lys Val Val Arg Gly Glu Lys Cys Asn Leu Gly Met Asn Cys Gln						
	465		470			475
Gln Ala Leu Gln Thr Leu Ile Gln Glu Thr Asp Pro Gly Ala Asp Tyr						
	485		490			495
Arg Ile Asp Arg Ala Leu Asn Glu Ala Cys Glu Ser Val Ile Gln Thr						
	500		505			510
Ala Cys Lys His Ile Arg Ser Gly Asp Pro Met Ile Ser Ser Cys Leu						
	515		520			525
Met Glu His Leu Tyr Thr Glu Lys Met Val Glu Asp Cys Glu His Arg						
	530		535			540
Leu Leu Glu Leu Gln Tyr Phe Ile Ser Arg Asp Trp Lys Leu Asp Pro						
	545		550			555
Val Leu Tyr Arg Lys Cys Gln Gly Asp Ala Ser Arg Leu Cys His Thr						
	565		570			575
His Gly Trp Asn Glu Thr Ser Glu Phe Met Pro Gln Gly Ala Val Phe						
	580		585			590
Ser Cys Leu Tyr Arg Glu Ala Tyr Arg Thr Glu Glu Gln Gly Arg Arg						
	595		600			605
Leu Ser Arg Glu Cys Arg Ala Glu Val Gln Arg Ile Leu His Gln Arg						

610	615	620
Ala Met Asp Val Lys	Leu Asp Pro Ala Leu	Gln Asp Lys Cys Leu Ile
625	630	635
Asp Leu Gly Lys Trp	Cys Ser Glu Lys Thr	Glu Thr Gly Gln Glu Leu
	645	650
Glu Cys Leu Gln Asp	His Leu Asp Asp	Leu Val Val Glu Cys Arg Asp
	660	665
Ile Val Gly Asn Leu	Thr Glu Leu Glu Ser	Glu Asp Ile Gln Ile Glu
	675	680
Ala Leu Leu Met Arg	Ala Cys Glu Pro Ile	Ile Gln Thr Phe Cys His
	690	695
Asp Ala Asp Asn Gln	Ile Asp Ser Gly Asp	Leu Met Glu Cys Leu Ile
705	710	715
Gln Asn Lys His Gln	Lys Asp Met Asn Glu	Lys Cys Ala Ile Gly Val
	725	730
Thr His Phe Gln Leu	Val Gln Met Lys Asp	Phe Arg Phe Ser Tyr Lys
	740	745
Phe Lys Met Ala Cys	Lys Glu Asp Val Leu	Lys Leu Cys Pro Asn Ile
	755	760
Lys Lys Lys Val Asp	Val Val Ile Cys Leu	Ser Thr Thr Val Arg Asn
	770	775
Asp Thr Leu Gln Glu	Ala Lys Glu His Arg	Val Ser Leu Lys Cys Arg
785	790	795
Arg Gln Leu Arg Val	Glu Glu Leu Glu Met	Thr Glu Asp Ile Arg Leu
	805	810
Glu Pro Asp Leu Tyr	Glu Ala Cys Lys Ser	Asp Ile Lys Asn Phe Cys
	820	825
Ser Ala Val Gln Tyr	Gly Asn Ala Gln Ile	Ile Glu Cys Leu Lys Glu
	835	840
Asn Lys Lys Gln Leu	Ser Thr Arg Cys His	Gln Lys Val Phe Lys Leu
	850	855
Gln Glu Thr Glu Met	Met Asp Pro Glu Leu	Asp Tyr Thr Leu Met Arg
865	870	875
Val Cys Lys Gln Met	Ile Lys Arg Phe Cys	Pro Glu Ala Asp Ser Lys
	885	890
Thr Met Leu Gln Cys	Leu Lys Gln Asn Lys	Asn Ser Glu Leu Met Asp
	900	905
Pro Lys Cys Lys Gln	Met Ile Thr Lys Arg	Gln Ile Thr Gln Asn Thr
	915	920
Asp Tyr Arg Leu Asn	Pro Met Leu Arg Lys	Ala Cys Lys Ala Asp Ile
	930	935
Pro Lys Phe Cys His	Gly Ile Leu Thr Lys	Ala Lys Asp Asp Ser Glu
945	950	955
Leu Glu Gly Gln Val	Ile Ser Cys Leu Lys	Leu Arg Tyr Ala Asp Gln
	965	970
Arg Leu Ser Ser Asp	Cys Glu Asp Gln Ile	Arg Ile Ile Ile Gln Glu
	980	985
Ser Ala Leu Asp Tyr	Arg Leu Asp Pro Gln	Leu Gln Leu His Cys Ser
	995	1000
Asp Glu Ile Ser Ser	Leu Cys Ala Glu Glu	Ala Ala Gln Glu Gln
	1010	1015
Thr Gly Gln Val Glu	Glu Cys Leu Lys Val	Asn Leu Leu Lys Ile Lys
1025	1030	1035
Thr Glu Leu Cys Lys	Lys Glu Val Leu Asn	Met Leu Lys Glu Ser Lys
	1045	1050
Ala Asp Ile Phe Val	Asp Pro Val Leu His	Thr Ala Cys Ala Leu Asp
	1060	1065
Ile Lys His His Cys	Ala Ala Leu Thr Pro	Gly Arg Gly Arg Gln Met

	1075		1080		1085										
Ser	Cys	Leu	Met	Glu	Ala	Leu	Glu	Asp	Lys	Arg	Val	Arg	Leu	Gln	Pro
	1090						1095					1100			
Glu	Cys	Lys	Lys	Arg	Leu	Asn	Asp	Arg	Ile	Glu	Met	Trp	Ser	Tyr	Ala
1105					1110					1115				1120	
Ala	Lys	Val	Ala	Pro	Ala	Asp	Gly	Phe	Ser	Asp	Leu	Ala	Met	Gln	Val
				1125					1130					1135	
Met	Thr	Ser	Pro	Ser	Lys	Asn	Tyr	Ile	Leu	Ser	Val	Ile	Ser	Gly	Ser
			1140					1145					1150		
Ile	Cys	Ile	Leu	Phe	Leu	Ile	Gly	Leu	Met	Cys	Gly	Arg	Ile	Thr	Lys
	1155					1160					1165				
Arg	Val	Thr	Arg	Glu	Leu	Lys	Asp	Arg							
	1170					1175									

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 <213> Homo sapiens

<400> 8

Met	Ala	Ala	Cys	Gly	Arg	Val	Arg	Arg	Met	Phe	Arg	Leu	Ser	Ala	Ala
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Leu	His	Leu	Leu	Leu	Phe	Ala	Ala	Gly	Ala	Glu	Lys	Leu	Pro	Gly	
		20					25					30			
His	Gly	Val	His	Ser	Gln	Gly	Gln	Gly	Pro	Gly	Ala	Asn	Phe	Val	Ser
	35					40					45				
Phe	Val	Gly	Gln	Ala	Gly	Gly	Gly	Gly	Pro	Ala	Gly	Gln	Gln	Leu	Pro
	50				55					60					
Gln	Leu	Leu	Gln	Ser	Ser	Gln	Leu	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln
65				70					75					80	
Gln	Gln	Gln	Gln	Leu	Gln	Pro	Pro	Gln	Pro	Pro	Phe	Pro	Ala	Gly	Gly
			85					90						95	
Pro	Pro	Ala	Arg	Arg	Gly	Gly	Ala	Gly	Ala	Gly	Gly	Gly	Trp	Lys	Leu
		100					105					110			
Ala	Glu	Glu	Glu	Ser	Cys	Arg	Glu	Asp	Val	Thr	Arg	Val	Cys	Pro	Lys
	115					120					125				
His	Thr	Trp	Ser	Asn	Asn	Leu	Ala	Val	Leu	Glu	Cys	Leu	Gln	Asp	Val
	130				135					140					
Arg	Glu	Pro	Glu	Asn	Glu	Ile	Ser	Ser	Asp	Cys	Asn	His	Leu	Leu	Trp
145				150					155					160	
Asn	Tyr	Lys	Leu	Asn	Leu	Thr	Thr	Asp	Pro	Lys	Phe	Glu	Ser	Val	Ala
		165						170						175	
Arg	Glu	Val	Cys	Lys	Ser	Thr	Ile	Thr	Glu	Ile	Lys	Glu	Cys	Ala	Asp
		180					185					190			
Glu	Pro	Val	Gly	Lys	Gly	Tyr	Met	Val	Ser	Cys	Leu	Val	Asp	His	Arg
	195					200						205			
Gly	Asn	Ile	Thr	Glu	Tyr	Gln	Cys	His	Gln	Tyr	Ile	Thr	Lys	Met	Thr
210					215						220				
Ala	Ile	Ile	Phe	Ser	Asp	Tyr	Arg	Leu	Ile	Cys	Gly	Phe	Met	Asp	Asp
225				230						235				240	
Cys	Lys	Asn	Asp	Ile	Asn	Ile	Leu	Lys	Cys	Gly	Ser	Ile	Arg	Leu	Gly
		245						250						255	
Glu	Lys	Asp	Ala	His	Ser	Gln	Gly	Glu	Val	Val	Ser	Cys	Leu	Glu	Lys
		260					265					270			
Gly	Leu	Val	Lys	Glu	Ala	Glu	Glu	Arg	Glu	Pro	Lys	Ile	Gln	Val	Ser
	275					280					285				
Glu	Leu	Cys	Lys	Lys	Ala	Ile	Leu	Arg	Val	Ala	Glu	Leu	Ser	Ser	Asp

290	295	300
Asp Phe His Leu Asp Arg His Leu Tyr Phe Ala Cys Arg Asp Asp Arg		
305	310	315
Glu Arg Phe Cys Glu Asn Thr Gln Ala Arg Glu Gly Arg Val Tyr Lys		320
	325	330
Cys Leu Phe Asn His Lys Phe Glu Glu Ser Met Ser Glu Lys Cys Arg		335
	340	345
Glu Ala Leu Thr Thr Arg Gln Lys Leu Ile Ala Gln Asp Tyr Lys Val		350
	355	360
Ser Tyr Ser Leu Ala Lys Ser Cys Lys Ser Asp Leu Lys Lys Tyr Arg		365
	370	375
Cys Asn Val Glu Asn Leu Pro Arg Ser Arg Glu Ala Arg Leu Ser Tyr		380
385	390	395
Leu Leu Met Cys Leu Glu Ser Ala Val His Arg Gly Arg Gln Val Ser		400
	405	410
Ser Glu Cys Gln Gly Glu Met Leu Asp Tyr Arg Arg Met Leu Met Glu		415
	420	425
Asp Phe Ser Leu Ser Pro Glu Ile Ile Leu Ser Cys Arg Gly Glu Ile		430
	435	440
Glu His His Cys Ser Gly Leu His Arg Lys Gly Arg Thr Leu His Cys		445
	450	455
Leu Met Lys Val Val Arg Gly Glu Lys Gly Asn Leu Gly Met Asn Cys		460
465	470	475
Gln Gln Ala Leu Gln Thr Leu Ile Gln Glu Thr Asp Pro Gly Ala Asp		480
	485	490
Tyr Arg Ile Asp Arg Ala Leu Asn Glu Ala Cys Glu Ser Val Ile Gln		495
	500	505
Thr Ala Cys Lys His Ile Arg Ser Gly Asp Pro Met Ile Leu Ser Cys		510
	515	520
Leu Met Glu His Leu Tyr Thr Glu Lys Met Val Glu Asp Cys Glu His		525
	530	535
Arg Leu Leu Glu Leu Gln Tyr Phe Ile Ser Arg Asp Trp Lys Leu Asp		540
545	550	555
Pro Val Leu Tyr Arg Lys Cys Gln Gly Asp Ala Ser Arg Leu Cys His		560
	565	570
Thr His Gly Trp Asn Glu Thr Ser Glu Phe Met Pro Gln Gly Ala Val		575
	580	585
Phe Ser Cys Leu Tyr Arg His Ala Tyr Arg Thr Glu Glu Gln Gly Arg		590
	595	600
Arg Leu Leu Asp Pro Ala Leu Gln Asp Lys Cys Leu Ile Asp Leu Gly		605
	610	615
Lys Trp Cys Ser Glu Lys Thr Glu Thr Gly Gln Glu Leu Glu Cys Leu		620
625	630	635
Ser Arg Glu Cys Arg Ala Glu Val Gln Arg Ile Leu His Gln Arg Ala		640
	645	650
Met Asp Val Lys Gln Asp His Leu Asp Asp Leu Val Val Glu Cys Arg		655
	660	665
Asp Ile Val Gly Asn Leu Thr Glu Leu Glu Ser Glu Asp Ile Gln Ile		670
	675	680
Glu Ala Leu Leu Met Arg Ala Cys Glu Pro Ile Ile Gln Asn Phe Cys		685
	690	695
His Asp Val Ala Asp Asn Gln Ile Asp Ser Gly Asp Leu Met Glu Cys		700
705	710	715
Leu Ile Gln Asn Lys His Gln Lys Asp Met Asn Glu Lys Cys Ala Ile		720
	725	730
Gly Val Thr His Phe Gln Leu Val Gln Met Lys Asp Phe Arg Phe Ser		735
	740	745
Tyr Lys Phe Lys Met Ala Cys Lys Glu Asp Val Leu Lys Leu Cys Pro		750

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<223> Primer

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22

<210> 10

<211> 22

<212> DNA

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<223> Primer

<400> 10

tggcacttgc ggtacaggac ag

22

<210> 11

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21

<210> 12

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<400> 12

cagctcagcc acccgagaa tg

22

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<400> 13

gcttggagaa aggcctgggtg aa

22

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 Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser
 1 5 10 15
 tat ggc atg cac tgg gtc cgc cag gct cca ggc aag ggg ctg gag tgg 96
 Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp
 20 25 30
 gtg gca gtt ata tca tat gat gga agt aat aaa tac tat gca gac tcc 144
 Val Ala Val Ile Ser Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser
 35 40 45
 gtg aag ggc cga ttc acc atc tcc aga gac aat tcc aag aac acg ctg 192
 Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu
 50 55 60
 tat ctg caa atg aac agc ctg aga gct gag gac acg gct gtg tat tac 240
 Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr
 65 70 75 80
 tgt gcg agg tcg act acg agg tct tat cct cta tac ggt atg gac gtt 288
 Cys Ala Arg Ser Thr Thr Arg Ser Tyr Pro Leu Tyr Gly Met Asp Val
 85 90 95
 tgg ggc caa ggg aac cct gtc acc 312
 Trp Gly Gln Gly Asn Pro Val Thr
 100

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<220>
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<400> 27

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Val Thr Ser Tyr Val Leu Thr Gln Pro Pro Ser Val Ser Val Ala Pro	
1 5 10 15	
gga cag acg gcc agt att acc tgt ggg gga aat aac att gga agt aaa	96
Gly Gln Thr Ala Ser Ile Thr Cys Gly Gly Asn Asn Ile Gly Ser Lys	
20 25 30	
agt gtg cac tgg tac cat cag aag cca ggc cag gcc cct gtg ctg gtc	144
Ser Val His Trp Tyr His Gln Lys Pro Gly Gln Ala Pro Val Leu Val	
35 40 45	
gtc tat gat gat agc gac cgg ccc tca ggg atc cct gag cga ttc tct	192
Val Tyr Asp Asp Ser Asp Arg Pro Ser Gly Ile Pro Glu Arg Phe Ser	
50 55 60	
ggc tcc aac tct ggg aac acg gcc acc ctg acc atc acc agg gtc gaa	240
Gly Ser Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Thr Arg Val Glu	
65 70 75 80	
gcc ggg gat gag gcc gac tat tac tgt cag gtg tgg gat agt agt agt	288
Ala Gly Asp Glu Ala Asp Tyr Tyr Cys Gln Val Trp Asp Ser Ser Ser	
85 90 95	
gat ctc aat tgg gtg ttc ggc gga agg acc caa gct gac cgt cct acg	336
Asp Leu Asn Trp Val Phe Gly Gly Arg Thr Gln Ala Asp Arg Pro Thr	
100 105 110	
tca gcc caa ggc tgc ccc tcc ggt cac tct gtt ccc cgc ccc cct ctg	384
Ser Ala Gln Gly Cys Pro Ser Gly His Ser Val Pro Arg Pro Pro Leu	
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aag agc ttc aag ctt	399
Lys Ser Phe Lys Leu	
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<212> PRT

<213> Homo sapiens

<400> 28

Arg Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser	
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Tyr Gly Met His Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp	
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Val Ala Val Ile Ser Tyr Asp Gly Ser Asn Lys Tyr Tyr Ala Asp Ser	
35 40 45	
Val Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu	
50 55 60	
Tyr Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr	
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Cys Ala Arg Ser Thr Thr Arg Ser Tyr Pro Leu Tyr Gly Met Asp Val	
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Trp Gly Gln Gly Asn Pro Val Thr
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Gly Gln Thr Ala Ser Ile Thr Cys Gly Gly Asn Asn Ile Gly Ser Lys
20 25 30
Ser Val His Trp Tyr His Gln Lys Pro Gly Gln Ala Pro Val Leu Val
35 40 45
Val Tyr Asp Asp Ser Asp Arg Pro Ser Gly Ile Pro Glu Arg Phe Ser
50 55 60
Gly Ser Asn Ser Gly Asn Thr Ala Thr Leu Thr Ile Thr Arg Val Glu
65 70 75 80
Ala Gly Asp Glu Ala Asp Tyr Tyr Cys Gln Val Trp Asp Ser Ser Ser
85 90 95
Asp Leu Asn Trp Val Phe Gly Gly Arg Thr Gln Ala Asp Arg Pro Thr
100 105 110
Ser Ala Gln Gly Cys Pro Ser Gly His Ser Val Pro Arg Pro Pro Leu
115 120 125
Lys Ser Phe Lys Leu
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22